

ABSTRACT

A multi-domain vertical alignment liquid crystal display, having a substrate with a color filter, a liquid crystal layer and a thin-film transistor array substrate. The thin-film transistor array substrate has an array of thin-film transistors and pixel electrodes. The pixel electrodes have a plurality of protrusions and slits, and a dielectric layer with a planarized surface covering the pixel electrodes. Therefore, the dielectric layer on the protrusion is thinner. Or alternatively, the protrusions are exposed. The exposed protrusions being alternately arranged with the slits and the dielectric layer result in a planarization effect, and have the function of twisting the electric field generated by the pixel electrodes. The liquid crystal molecules are thus inclined towards different directions to divide the liquid crystal layer of the same pixel electrode into multi-domains.